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**ComEd**

November 19, 1997

LTR: BYRON 97-0274  
FILE: 1.10.0101

U.S. Nuclear Regulatory Commission  
Washington, DC 20555

ATTENTION: Document Control Desk

SUBJECT: Byron Nuclear Power Station Units 1 and 2  
Response to Notice of Violation  
Inspection Report No. 50-454/97015; 50-455/97015  
NRC Docket Numbers 50-454, 50-455

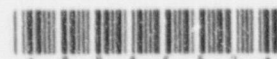
REFERENCE: Geoffrey E. Grant letter to Mr. Graesser dated  
October 20, 1997, transmitting NRC Inspection  
Report 50-454/97015; 50-455/97015

Enclosed is Commonwealth Edison Company's response to the Notice of Violation (NOV) which was transmitted with the referenced letter and Inspection Report. The NOV cited three (3) Severity Level IV violations requiring a written response. ComEd's response is provided in the attachment.

This letter contains the following commitments:

- 1) Maintenance groups will brief all maintenance staff personnel on the subject of the inadvertent OB SX Make-up pump/inadvertent PORV lift events, and to challenge work package quality and demonstrate the proper channels to communicate work package weaknesses.
- 2) Instrument Maintenance personnel will be instructed to expect precautions to be addressed in work packages that were previously left to calibration procedures to accomplish.

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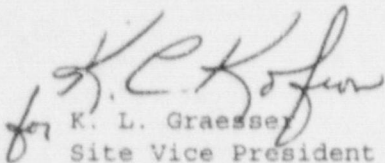
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- 3) Revise NSWP-A-03 to instruct workers to follow BFP FH-31 when working in fuel handling cleanliness zones.
- 4) Submit a Technical Specification Amendment to revise the minimum allowable CST level and update TS Table 3.3-4 with the appropriate value.
- 5) Revise Byron Procedure 1BIS 3.2.1-021 and 2BIS 3.2.1-021 with the appropriate Technical Specification values.

If your staff has any questions or comments concerning this letter, please refer them to Don Brindle, Regulatory Assurance Supervisor, at (815) 234 4441 ext. 2280.

Respectfully,

  
for K. L. Graesser  
Site Vice President  
Byron Nuclear Power Station

KLG/DB/rp

Attachment(s)

cc: A. E. Beach, NRC Regional Administrator - RIII  
G. F. Dick Jr., Byron Project Manager - NRR  
Senior Resident Inspector, Byron  
M. J. Jordan, Reactor Projects Chief - RIII  
F. Niziolek, Division of Engineering - IDNS

## ATTACHMENT I

### VIOLATION (454/455-97015-02)

Appendix B, Criterion XVI, "Corrective Action," of 10 CFR Part 50, requires, in part, that in the case of significant conditions adverse to quality, measures shall be established to assure that corrective action be taken to preclude repetition.

Contrary to the above, the inspectors identified that the corrective actions resulting from the inadvertent lift of a Unit 2 pressurizer power operated relief valve on March 5, 1997, were inadequate to prevent the inadvertent start of the OB essential service water make-up pump on September 2, 1997. Specifically, precautions were not identified in the work request describing potential system response (50-454/455/97015-02(DRP)).

This is a Severity Level IV Violation (Supplement I).

### REASON FOR THE VIOLATION

The Instrument Maintenance Department concurs with the violation in that:

The inadvertent lift of the Unit 2 pressurizer relief valve (PORV) may have been prevented with additional work package instructions, and the corrective action taken as a result of the relief lifting was too narrow in focus to prevent other similar activities from causing inadvertent actuations.

Work packages for complex, infrequently performed activities require additional precautions to aid in the prevention of unplanned equipment responses. In the case of the auto-start of the OB Essential Service Water Make-up Pump, the work instructions were unclear and poor communication was exhibited at the job briefing and job sign-in.

### CORRECTIVE STEPS TAKEN AND RESULTS ACHIEVED

1. The work was immediately stopped and the event was reviewed with the Shift Manager and personnel involved in the event.
2. The work package for the opposite train was revised to include putting the pump into "Pull-to-Lock" with appropriate sign-offs prior to determining the switch.
3. Work package preparers were directed to include in the work packages actions required by other departments (i.e., OOS's, precautions and expectations).



CORRECTIVE STEPS THAT WILL BE TAKEN TO AVOID FURTHER VIOLATION

1. Maintenance groups will brief all maintenance staff personnel on the subject of these events, and to challenge work package quality and demonstrate the proper channels to communicate work package weaknesses. This action will be tracked by NTS item# 454-100-97-01502-01.
2. Instrument Maintenance personnel will be instructed to expect precautions to be addressed in work packages that were previously left to calibration procedures to accomplish. This action will be tracked by NTS item# 454-100-97-01502-02.

DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED

Full compliance was achieved on 09/05/97 when LCOAR OBOS 7.5-1A was exited.

## ATTACHMENT II

### VIOLATION (454/455-97015-03a/b)

Technical Specification 6.8.1 requires that procedures be established, implemented, and maintained for activities covered in Appendix A of Regulatory Guide 1.33. Regulatory Guide 1.33, Appendix A, Section e, covers the use of general procedures for control of maintenance and modification work.

Byron Fuel Handling Procedure (BFP) FH-31, "Fuel Handling Cleanliness Zones and Requirements," Revision 4, is a general procedure used in the control of maintenance and modification work. Paragraph F.5.e of BFP FH-31 requires tools to be tethered and logged.

BFP FH-31, "Fuel Handling Cleanliness Zones and Requirements," Revision 4, is a general procedure used in the control of maintenance and modification work. Paragraph F.5.f of BFP FH-31 requires personnel accountability to be accomplished by logging in and out each individual at the control point of a cleanliness area.

Contrary to the above,

- a. On July 28, 1997, the inspectors identified untethered tools, including needlenose pliers, a hammer, and several other hand tools, in the cleanliness area established for spent fuel pool fuel transfer canal modification work.  
(50-454/97015-03a(DRP);50-455/97015-03a(DKP)).
- b. On July 28, 1997, the inspectors identified that a person had logged into the cleanliness area established for spent fuel pool transfer canal modification work on June 23, 1997, but had not logged out  
(50-454/97015-03b(DRP);50-455/97015-03b(DRP)).

This is a Severity Level IV Violation (Supplement I).

### REASON FOR THE VIOLATION

The work packages prepared and being used by the contractors performing the work, on the spent fuel pool fuel transfer canal modification, contained directions to follow NSWP-A-03, "Foreign Material Exclusion," for Foreign Material Exclusion (FME) controls and not BFP FH-31, "Fuel Handling Cleanliness Zones and Requirements." The contract workers had not been trained on the proper use of BFP FH-31, which contains additional requirements, and this procedure was not included as a part of the work packages.

CORRECTIVE STEPS TAKEN AND RESULTS ACHIEVED

1. Assigned Fuel Handling Department personnel to be in attendance and monitor the work activities for the remainder of the project.
2. Performed a complete audit and inventory of all logs, and corrected the logs.
3. Removed equipment not required to be in the FME area.
4. Briefed contractor personnel on the use of BFP FH-31.
5. Revised BFP FH-31 to allow work and storage of materials within cleanliness zones provided appropriate barriers are erected.

CORRECTIVE STEPS THAT WILL BE TAKEN TO AVOID FURTHER VIOLATION

1. Revise NSWP-A-03 to instruct workers to follow BFP FH-31 when working in fuel handling cleanliness zones. This action will be tracked by NTS item# 454-201-97-CAQS02198-02.

DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED

Full compliance was achieved on 8/12/97 when the work area and logs were corrected, and work proceeded in accordance with BFP FH-31.



### ATTACHMENT III

#### VIOLATION (454/455-97015-04a/b)

Appendix B, Criterion XVI, "Corrective Action," of 10 CFR Part 50, requires, in part, that measures be established to assure that conditions adverse to quality, such as failures, malfunctions, deficiencies, deviations, defective material and equipment, and nonconformances are promptly identified and corrected.

Contrary to the above:

- a. The inspectors identified that since December 1994, the licensee failed to implement timely corrective action for a condition adverse to quality, in that Technical Specification Table 3.3-4, Functional Unit 6.g, had not been revised to accurately reflect a change in the auxiliary feedwater pump low suction pressure transfer to essential service water (50-454/97015-04a(DRP); 50-455/97015-04a(DRP)).
- b. The inspectors identified that since December 1994, the licensee failed to implement timely corrective action for a condition adverse to quality, in that procedure 1BIS 3.2.1-021, "Functional Test of Auxiliary Feedwater Pump Suction Pressure," Revision 8, had not been revised to accurately reflect a change in the allowable value trip setpoint for the auxiliary feedwater pump low suction pressure transfer to essential service water (50-454/97015-04b(DRP); 50-455/97015-04b(DRP)).

This is a Severity Level IV Violation (Supplement I).

#### REASON FOR THE VIOLATION

- a. Failure to update AF TS setpoint

In 1994, Byron Station identified a concern during a review of the Auxiliary Feedwater (AF) system. The concern centered around a scenario where a seismic event could degrade the automatic AF pump suction switchover from the Condensate Storage Tank (CST) to the Essential Service Water (SX) system. The seismic event was postulated to cause a break in the safety class II condensate piping on the suction side of the AF pumps. The effect of the break would be to drain the piping header and its associated loop seals, thereby exposing the AF pump suction to atmospheric pressure. At the time this issue was discovered, the SX switchover setpoint was subatmospheric at 14.1 psia. With the header drained and the loop seal ineffective, it was postulated that the pump suction piping would empty before the SX switchover setpoint was reached. In this circumstance, the suction pressure instrumentation would sense only atmospheric pressure and the automatic SX switchover would not occur. In response to the identified issue, Byron Station performed an operability assessment (94-011) and implemented a corrective action to increase the setpoints on the suction pressure switches for the four (4) AF pumps on both Byron units. In addition, a compensatory action to administratively maintain a higher volume of water in the CST was implemented to prevent an inadvertent switchover from the CST to SX water supply and to maintain the licensing basis requirements for available CST inventory. The AF suction

alarm setpoints were raised from 16.1 to 20.1 psia, the SX switchover setpoints were raised from 14.1 to 18.1 psia, and the AF pump trip setpoints were raised from 12.5 to 16.5 psia. These new setpoints were chosen so that if the pump suction pressure dropped to atmospheric due to a loss of the suction header and loop seal, all three (3) actuations would still occur. The setpoint changes were implemented in Byron setpoint change requests (SSCRs) 94-073, 94-074, 94-075, and 94-076. A 50.59 safety evaluation (T1-94-0146) was performed to support the setpoint changes. The safety evaluation appropriately identified TS Table 3.3-4, Functional Unit 6.g. as being potentially impacted by the setpoint change. However, the changes were identified as being in the conservative direction with respect to the TS limits defined in Table 3.3-4, Functional Unit 6.g. and therefore, it was concluded that the margin of safety was not reduced. Furthermore, since the existing condition was considered to be temporary until a longer term corrective action could be implemented, the change to TS Table 3.3-4 was not considered appropriate or necessary. In summary, the reason for the violation was the failure to recognize the urgency to make an administrative change to the TS values contained in Table 3.3-4, Functional Unit 6.g. since the revised setpoint value was determined to be conservative with respect to the TS.

b. Failure to revise procedure 1BIS 3.2.1-021

As discussed in the previous section above, Byron Station completed Operability Assessment 94-011 which implemented corrective and compensatory actions in response to the identified operability issue for AF pump suction switchover. One of the corrective actions was to revise the AF suction setpoints. The AF suction alarm setpoints were raised from 16.1 to 20.1 psia, the SX switchover setpoints were raised from 14.1 to 18.1 psia, and the AF pump trip setpoints were raised from 12.5 to 16.5 psia. These new setpoints were chosen so that if the pump suction pressure dropped to atmospheric due to a loss of the suction header and loop seal, all three (3) actuations would still occur. The setpoint changes were implemented in Byron setpoint change requests (SSCRs) 94-073, 94-074, 94-075, and 94-076. As part of the SSCRs, procedures 1BIS 3.2.1-021 and 2BIS 3.2.1-021, "Surveillance Functional Test of Auxiliary Feedwater Pump Suction Pressure Loop," were revised to incorporate the new setpoints. Revision 8 of each procedure was issued on December 27, 1994 which correctly incorporated the revised AF suction setpoints identified in the above SSCRs. The specific changes in the BIS procedures was the document, Out of Tolerance range. However, as discussed in section a. above, no change to TS Table 3.3-4, Functional Unit 6.g. was identified as being required in the supporting 50.59 safety evaluation. Therefore, even though the Out of Tolerance ranges were revised in the two (2) BIS procedures, the corresponding minimum allowable TS value was not revised. In summary, the reason for this violation is the failure to recognize the need to make an administrative change to the Byron values contained in TS Table 3.3-4, Functional Unit 6.g. In addition, since the TS values were not revised, the corresponding minimum allowable TS values contained in 1BIS 3.2.1-021 and 2BIS 3.2.1-021 were not revised either.



#### CORRECTIVE STEPS TAKEN AND RESULTS ACHIEVED

a. Failure to update AF TS setpoint

Byron Station, in conjunction with Braidwood Station, is in process of generating a TS amendment to revise the minimum allowable CST level and to update Table 3.3-4 with the appropriate value. This TS amendment is being developed in conjunction with the replacement steam generator project for Byron Unit 1 and Braidwood Unit 1. The TS change request will be issued by December 31, 1997. In the interim, Byron Station has previously implemented appropriate setpoint changes to reflect the current design basis of the AF system to ensure that switchover from the CST to SX will occur, if needed. The setpoint changes were correctly evaluated per the requirements of 10CFR50.59. In addition, a compensatory action remains in place to maintain minimum CST level of >75% to ensure that an inadvertent switchover from the CST to SX does not occur and to ensure that the licensing basis requirements for minimum available CST inventory are maintained. The administrative control on CST level will remain in effect pending NRC approval of the TS amendment request discussed above.

b. Failure to revise procedure 1BIS 3.2.1-021

Byron Procedure 1BIS 3.2.1-021 and 2BIS 3.2.1-021 will be revised with the appropriate TS value once NRC approval of the proposed TS amendment discussed in section a. above is received. This revision will incorporate the appropriate TS allowable value for the SX switchover setpoint. In the interim, the current allowable setpoint Out of Tolerance range documented in the procedures reflects the current design basis for the AF system. If any "as found" setpoint is identified as being Out of Tolerance, the procedures require immediate notification of the Operating Shift Manager for appropriate LCOAR entry. Therefore, based on the current guidance provided in the procedure, there is no possibility that operation outside of the design basis for the AF system will occur.

#### CORRECTIVE STEPS THAT WILL BE TAKEN TO AVOID FURTHER VIOLATION

Recent training and communication has been provided to Byron Station personnel on design and licensing basis issues. One particular area of focus was related to literal compliance with plant technical specifications and the licensing basis as described in the Updated Final Safety Analysis Report (UFSAR). This focused training is expected to reinforce the management expectation for literal compliance and the prompt identification of TS and UFSAR issues that require prompt disposition.

Submit a Technical Specification Amendment to revise the minimum allowable CST level and update TS Table 3.3-4 with the appropriate value. This action will be tracked by NTS item# 454-100-97-01504a-01.

Revision of Byron Procedure 1BIS 3.2.1-021 and 2BIS 3.2.1-021 with the appropriate TS value, once NRC approval of the proposed TS amendment discussed in section a. above is received, will be performed. This action will be tracked by NTS item# 454-100-97-01504b-01.

DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED

Full compliance will be achieved within 30 days of the NRC approval of the proposed TS Amendment to revise the minimum allowable CST level and update TS Table 3.3-4, and the appropriate procedure revisions to 1BIS 3.2.1-021 and 2BIS 3.2.1-021 are made in response to the TS Amendment. The TS Amendment request will be submitted by December 31, 1997 as an ordinary administrative change for NRC review.